Initiating coverage

Bartronics India (BARLTD)

Current price Rs 234	Target price Rs 338
Potential upside 44%	Time Frame 12-15 months

OUTPERFORMER

Smart one!!!

Bartronics India (BIL), one of the first Automatic Identification and Data Capture (AIDC) solutions company, is leveraging its existing client base and expertise to move up the value chain and emerge as the largest end-to-end AIDC solutions provider in the country. It is investing more than Rs 270 crore into a new 80-million smart cards manufacturing facility, that would make it one of the biggest players in South Asia and enable revenue growth by 130% CAGR over FY07-09E. The stock is currently trading at 10.32x FY09E earnings and 6.23x FY09E EV/EBIDTA, which we believe is very attractive considering the sharp earnings growth. We initiate coverage on the company with an outperformer rating with a target price of Rs 338.

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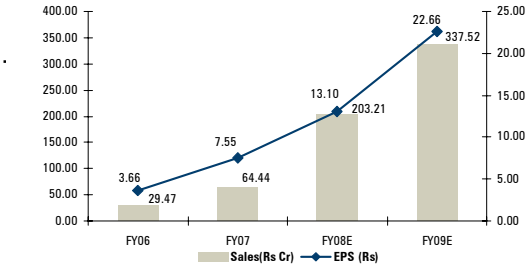
Sales & EPS trend



- **AIDC segment – First mover advantage**

BIL is one of the first organized players to provide end-to-end AIDC solutions in India with more than 1,600 clients and five international distribution centers. Strong technical know-how has helped the company move up the value chain from bar code to RFID solutions and increase realization per client. The company has also diversified into the retail space considering the low penetration of organized retail, a sector that is clocking at 30% CAGR growth.

- **Changing gears with smartcards**

Smart cards are expected to take the company into fifth gear with the South Asia's largest manufacturing facility. Having an order book for more than 100 million smart cards over next two years is expected to generate 3.5x FY07 revenues from this segment alone.

- **Strong earnings growth - Outperformer**

The stock is trading at 10.32x earnings and 6.23x EV/EBIDTA for FY09. We believe the valuations are attractive considering the changing business model, robust 73.2% earnings CAGR over FY07-09E, strong bargaining position in the smart cards segment and its ability to scale up AIDC segment. We rate the stock an outperformer rating with a target price of Rs 338, an upside of 44%.

Stock matrix

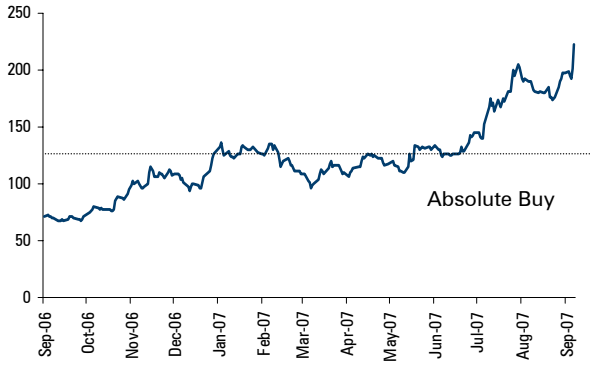
Promoters holding	44.77%
Market Cap	Rs 417 crore
52 Week H/L	245 / 66
Sensex	15,590
Average volume	82,874

Exhibit 1: Key Financials

(Rs crore)

Year to March 31	FY09E	FY08E	FY07P	FY06
Net Profit (Rs crore)	67.29	38.90	13.46	5.34
Shares in issue (in crore)	2.97	2.97	1.78	1.46
EPS (Rs)	22.66	13.10	7.55	3.66
% Growth	73.0%	73.5%	106.1%	
PER (x)	10.32	17.86	30.99	63.86
Price / Book (x)	1.80	2.18	3.55	4.98
EV/EBIDTA (x)	6.23	11.63	21.48	42.45
RoE (%)	17.46%	12.23%	11.44%	7.81%
RoCE (%)	17.77%	12.44%	12.72%	8.97%

Source: ICICIdirect Research



Company Background

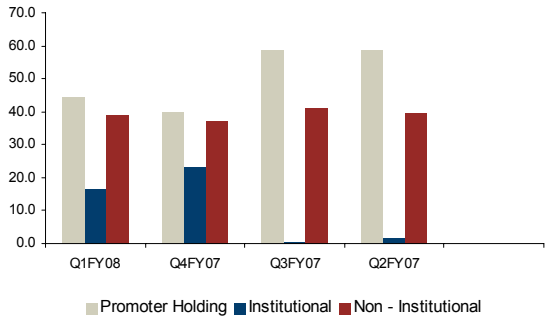
Bartronics was incorporated in 1990 and started its business in the field of bar coding and smart card technology. It later started experimenting with the new Automatic Identification & Data Capture (AIDC) solutions.

The company is involved mainly with the manufacturing sector and has implemented a number of projects across companies in their manufacturing set-ups. The projects primarily involved inventory & logistics management, time & attendance and asset tracking systems. AIDC is seen as an enhancing technology as it automates the data collection for the main systems. Currently, the company offers diverse range of AIDC technologies – barcode, biometrics, radio frequency identification (RFID), radio frequency data communications (RFDC) and electronic article surveillance (EAS). The company has recently set up an 80 million smart card facility in Hyderabad to cater to the growing demand from the telecom sector and plans to enter the retail market soon.

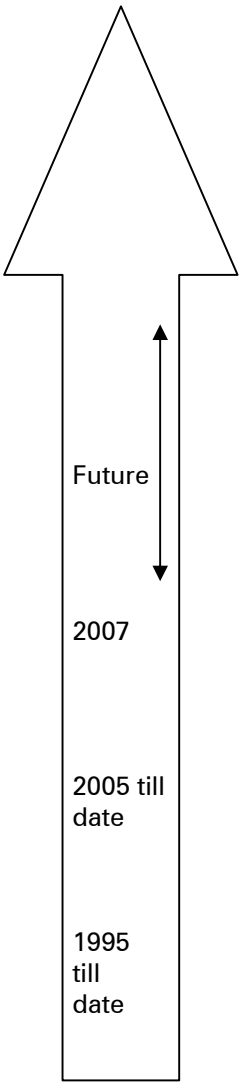
Shareholding Pattern

Shareholder	Holding (%)
Institutional	16.28
Promoters	44.77
Public & Others	38.95

Promoters Holding



Evolving business model



Future	Inorganic Growth
	Retail Solutions
2007	Smart Cards
2005 till date	Solutions Business
1995 till date	Trading Of AIDC Equipment

Acquisition of company for global expansion
Provide retail solutions through tie-up with Intel
80 million smart card manufacturing plant
Provide high-end AIDC solution to manufacturing industries
• Bar code equipment • System access misattachments • Label material, printers, verifiers and allied products

INVESTMENT RATIONALE

- **Indian smart card market at inflection point**

The Indian smart card market is at an inflection point with the demand coming from various sectors such as banking, retail, telecom, healthcare and government organizations which are likely to witness exponential growth over next three years with most companies looking at data security and collection. We believe BIL will be the key beneficiary of this growth and move up the value chain by offering complex solutions across industries.

Smart cards to grow at a CAGR of 48% to US$248 million by FY09

A Frost & Sullivan Report on the smart card market in India estimates that the revenues from the smart card would grow at a CAGR of 48%. The smart card market in terms of revenues is expected to grow from current US$ 47.5 million to US$248 million by 2009.

Exhibit 2: Smart card growth in India

Measurement Name	Measurement	Trend
Market Age	Growth	Increasing
Base year revenues (2004)	US$47.5 mn	Increasing
Potential revenues (market size in 2009)	US$248.0 mn	Increasing
Base year market growth rate (revenues)	35.90%	Increasing
Forecast period market growth rate (revenues)	39.20%	Increasing
Base year shipments (2004)	US$43.1 mn	Increasing
Potential units (market size in 2009)	US$310 mn	Increasing
Base year market growth rate (units)	48.20%	Increasing
Forecast period market growth rate (units)	48.40%	Increasing
Average price for smart card (base year)	$1.10	Decreasing

Source: Frost and Sullivan

We see major growth coming across sectors as shown

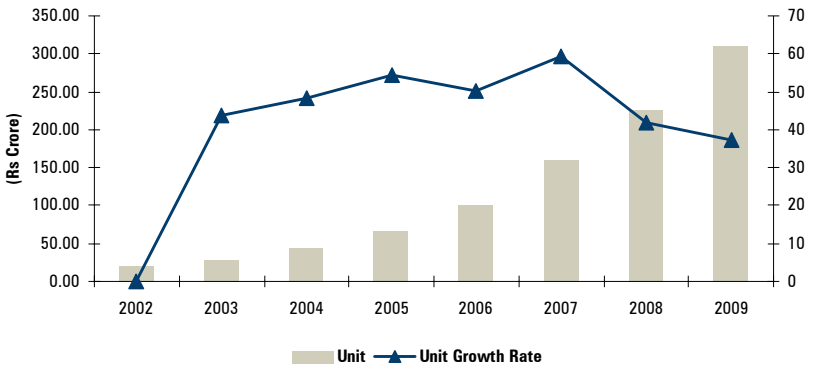
Exhibit 3: Smart card market: Percent of unit shipment by application (India), 2001-05

	Telecom	Banking & Retail	Transport	Healthcare	Government	Others
2001	68.90	16.50	0.55	0.03	13.70	0.32
2002	66.50	17.90	0.53	0.03	14.70	0.34
2003	64.00	19.40	0.57	0.04	15.60	0.39
2004	62.50	20.70	0.57	0.04	15.80	0.39
2005	59.60	23.70	0.72	0.05	15.50	0.43

Smart cards gaining acceptance across industries

Source: Frost and Sullivan

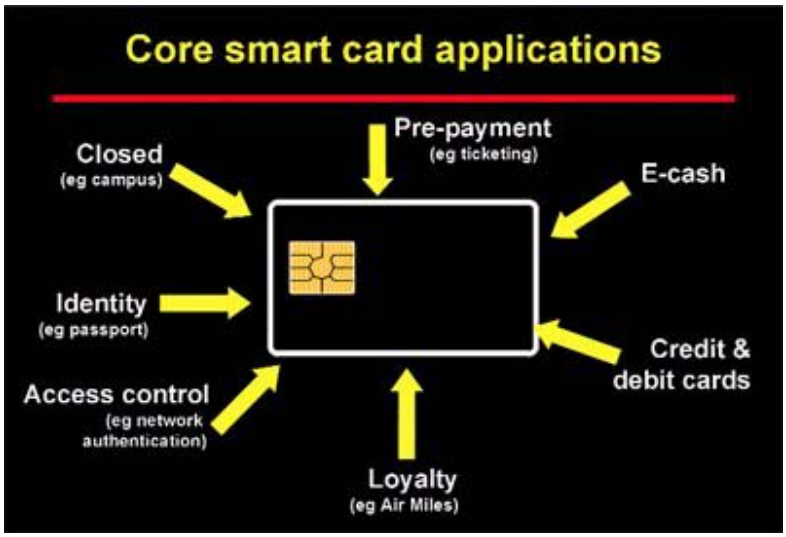
Exhibit 4: Total smart card market



Source: Frost and Sullivan

Success of pilot projects to boost future growth

Exhibit 5: Smart card applications



Source: expresscomputeronline.com

Experimentations with smart cards have started across states and we believe the trend to catch up with others soon. Some of the notable smart card projects in India are

1. PetroCard issued by BPCL.

2. The Employees Provident Fund Organization (EPFO) and Siemens' joint venture project to offer smart card facilities to EPFO's 2.6 crore subscribers.

3. Initiatives by state governments in Gujarat and Madhya Pradesh to issue smart card-based driving licenses.

4. Rajasthan milk card project—the world's first milk collection system based on smart card technology, and run exclusively by women.

5. The RBI-sponsored SMARS project, which involved the issuing of smart cards to the students and staff in the IIT Bombay campus.

6. The BEST project to solve the problem of small change, ensure better administration, and increase efficiency. This project was significant as it was the first time that a mass transport organization in India decided to go in for smart cards.

7. The Kerala ration card project to monitor the distribution of supplies through the public distribution system. The project has helped in cutting down pilferage of resources at various points in the system.

We believe India is the next hot spot for smart card applications as Asia-Pacific accounts for approximately 30 percent of worldwide smart card sales, and is the second-largest market after Europe. India is said to be the next big market after China and Japan for smart card growth.

- **Bartronics set to capture this opportunity**

To capture the demand for smart cards estimated at more than 150 million units per year and growing at a CAGR of 48%, BIL company set up the first smart card manufacturing plant in India having a capacity of 80 million units. We expect the plant to operate at around 40% capacity in FY08 and 90% in FY09. Initially, BIL plans to capture around 70% of the SIM card market, where the smart cards are priced at Rs 36 initially but are expected to decline to Rs 30. A further fillip to the smart card market is expected from the proposed Multipurpose National Identity Card to be implemented by the central government. BIL is among the companies shortlisted and the pilot project in underway. The banking sector will drive the industry with switch from the current magnetic tapecards as Visa & Master Card deadline will expire in next three years. The company has tied up with HSBC and Corporation Bank for ATM cards on a pilot basis for Rs 99 per card. We believe these small steps will help the company in long run and gain market share before competition enters the market

First smart card facility in India to capture this opportunity

- **Booming AIDC industry**

The AIDC industry is rapidly moving towards the use of RFID in a number of high value and high volume market segment. The RFID market is expected to grow from $1.4 billion annually to $6.1 billion in 2010. The Indian market is estimated about Rs.100 crore in FY05, comprising of smart cards and bar codes solutions. This segment is expected to grow at 20-30% annually. RFID and biometrics solutions are growing at a CAGR of 50% and are expected to have an exponential growth with retail and manufacturing growth in India.

- **BIL: Strong brand in AIDC segment**

BIL has established a brand value amongst its clients (about 1,600) over a period of 16 years. The work includes system integration for barcode solutions, which has applications in areas such as inventory management, attendance recording, dispatch management etc. The companies clientele includes Tata Steel, Tata Motors, HLL, ITC, Ashok Leyland, TVS, CMC, Ranbaxy, Compaq, VST, Whirlpool, ITW, Dr. Reddy's to name a few. The company also provides services to the devotees of *Lord Balaji* (Tirupati) by managing the inflow logistics of the pilgrims. Some of its multinational clients include Compaq, Panasonic, IBM, GM, Mercedes Benz, etc. The company has also started providing RFID solutions to the same set of customers and moving up the value chain.

Over 1,600 customers in the AIDC segment

- **De-risking geographies by going global**

In order to have strong global presence the company has five international distribution centers. These centers cater to the growing AIDC demand in the countries such as Malaysia, Sri Lanka, Bangladesh and Dubai. Having strong relations with clients has also helped the company expand to newer geographies as the clients moved to the other markets and wanted only BIL to provide solutions. We believe new geographies will help the company expand the market and gain market share.

More than 5 international centers to push global demand

- **Retail – the next big story**

Organized retail contributes more than 40% to the barcode industry. BIL is currently in the pilot stage to move up the value chain in this space and gain a share in the Rs 100,000 crore retail industry. The company has tied up with Intel and designed products and solutions for point of sales having starting price from Rs 32,000 onwards. These products are more than 20% cheaper to ones used by the industry currently and also more complex, which gives the retailer more information. With implementation of VAT across the country, every organized and unorganized retailer will need the solution and hardware to cater to the customers in more efficient way and manage supply chain. BIL has already has got more than 900 request from across the country for dealers and distributors. We believe these products will be launched by end of Dec 2007. However we have not factored this in our estimates.

Retail solutions to scale sales to newer orbits

- **Strong alliances**

To take the company into a new league, BIL constantly strikes alliances with the best in the industry across the globe. To offer state-of-the-art AIDC solutions, it has associations with companies worldwide who are the leaders in their respective range of AIDC equipment and solutions. They manufacture hardware and associated communications software too. The alliances are with Intermec, US; Escort Memory Systems, US; IDMicro, US and Synel Industries Ltd, Israel. Intermec is the world's largest manufacturer of bar coding scanners; Synel Industries is the leading manufacturer of security products globally. In case of Synel Industries, BIL has an exclusive arrangement to market its products in India. Escort Memory Systems and IDMicro are the global leaders in RFID products and BIL markets their products in India. In the area of smart cards, it has entered into a MoU with Muhlbauer AG, Germany, for implementing projects based on RFID, AIDC and smart cards and a software and marketing tie-up with Watchdata Technologies, Singapore. These companies are acknowledged leaders in their areas of operations and BIL actively derives its competence from these companies.

Strong alliances to provide regular technical support

- **Acquisition the next trigger**

BIL is scouting for acquisition since last two years in the USA. The target company is in the range of US$25 million. This will help the company achieve its vision of having Rs 1,000 crore turnover along with entry into the biggest market of the world where it could outsource work back to India and reduce cost and cross sell various solutions as well. We believe this acquisition will help the company build its brand across geographies and get into the new league.

- **Proactive management focusing on growth**

We believe the management has been proactive in identifying new areas of growth such as smart cards, entry in the retail segment and grabbing export opportunities (tie-up with Watchdog and Hayleys group) much ahead of its competitors. We believe they are capable of executing the larger vision of transforming the company and having Rs 1,000 crore turnover in next two years organically or inorganically.

Risk to our call

- **Obsolescence of technology**

The products and services offered by the AIDC industry hinder on technological and scientific progress. The products and services so offered shall be rendered obsolete by increasingly advanced and efficient products and services. This could hamper company's profitability if they are not able to scan the environment for emerging technologies.

- **Competition in smart cards**

Currently, all the smart cards in India are imported from the US and Europe. With growing demand from various sectors we foresee competition entering the space, which could reduce the company's competitive edge, as supply would increase. However, competition would increase the market size and penetration.

- **Smart card prices**

Smart card prices are internationally driven. Over last three years, card prices have reduced by more than 55%. BIL manufactured cards are around 15-20% cheaper than international cards. However, a further reduction in prices may make imports cheaper which may affect the company's profitability going forward.

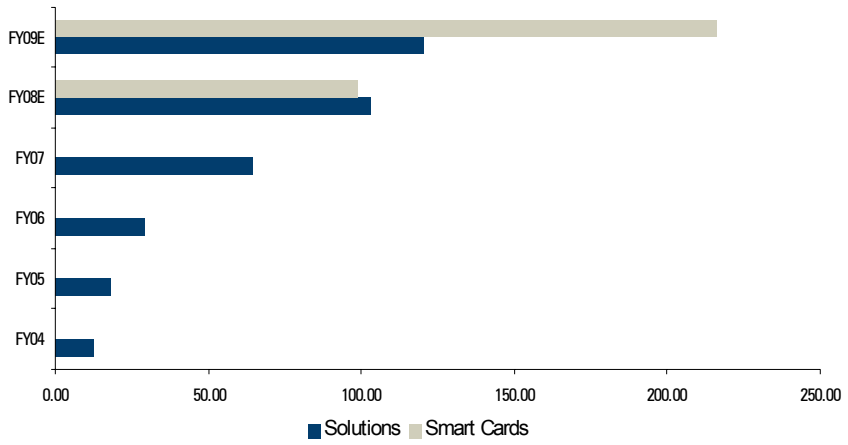
Financials

- **Revenues to become 5x FY07 revenues**

We expect revenues to be more 5x its FY07 revenues to Rs 336.57 crore by FY09 on back of new smart facility, which would contribute more than 64% to the topline. The company is well placed to capture the growth in the smart cads segment having the first mover advantage, expertise and capability to produce entire spectrum of products. With increasing need for AIDC solutions in the manufacturing and retail industry, we expect solutions revenue to grow at a CAGR of 37.8% and smart cards from zero to Rs 216 crore in FY09E. Accordingly we expect BIL to witness 130.2% CAGR in revenues over FY07-09E.

Revenues to surge over 5x to Rs 336.57 crore in FY09

Exhibit 6: Sales Growth



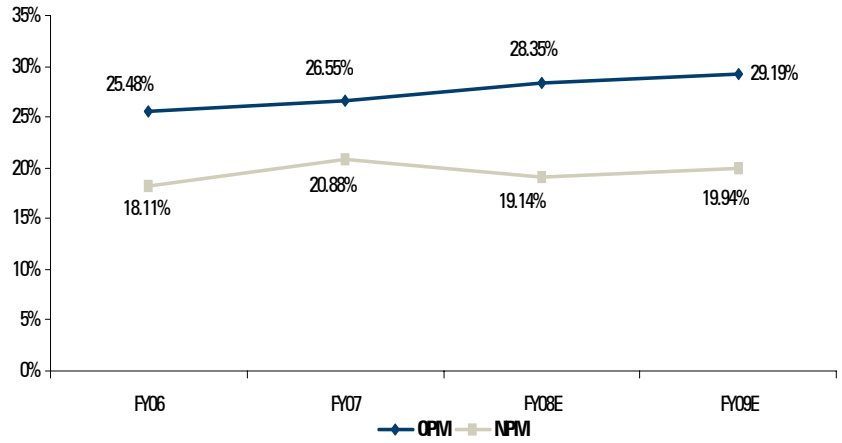
Source: ICICIdirect Research

- **Margins to jump by 270 bps over next two years**

BIL's business has operating leverage as the company uses a cost-plus approach. Furher, its new smart card facility has fixed cost in terms of employees and infrastructure. With rising utilization levels, operating margins are set to increase from 26.55% in FY07 to 29.19% in FY09E. However, we expect the PAT margins to reduce by 100 bps to 19.9% in FY09E on back of higher in depreciation on new capex and interest charges.

Exhibit 7: Margins

Steady operating margin expansion

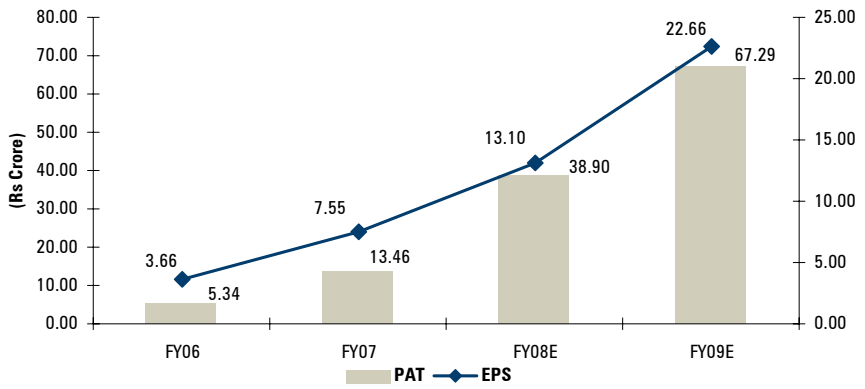


Source: ICICIdirect Research

- **73% earnings CAGR over FY07-09E**

We expect BIL's net profit to witness grow at a CAGR of 123.6% over FY07-09E led by strong revenue growth and expanding operating margins. However, equity dilution of 104% in last two years due to the recent fund-raising for the smart card facility should relatively mute EPS growth to a 73% CAGR over FY07-09E.

Exhibit 8: Earnings Growth



Source: ICICIdirect Research

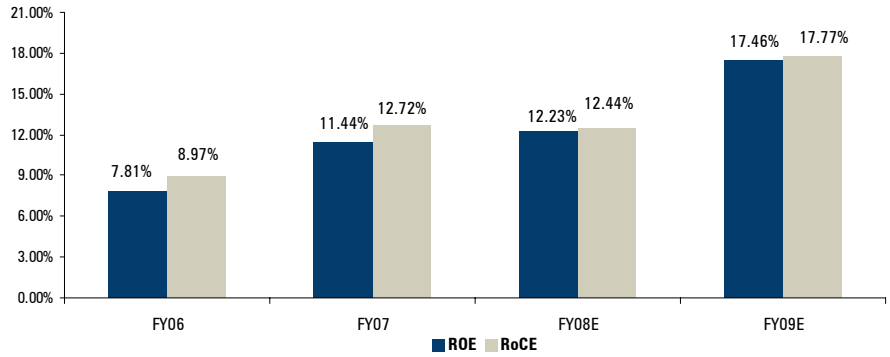
- **Raised Rs 270 crore for smart cards facility**

BIL has raised Rs 270 crore through an FCCB issue, warrants and QIP placement. This amounts a full equity dilution of 104%. The fund has been primarily raised to meet the capex to set up a smart card manufacturing facility in two phases. Phase I was completed in July 2007 while phase II is expect to be completed by January 2008. Company would require Rs 210 crore for expansion while Rs 60 crore for working capital.

- **Return ratios to improve over FY07-09E**

The company's recent fund-raising would mute its RoCE and RoE to 12.4% and 12.2%, respectively, as it has invested in the new smart card facility. However, once the facility starts generating revenues with more than 90% capacity utilization in FY09 and starts contributing significantly to the bottom line, we expect return ratios to improve from FY09 onwards.

Exhibit 9: Improving return ratios



Source: ICICIdirect Research

Valuations

We believe BIL, one of the first AIDC solutions company in India, is leveraging its existing client base and expertise to move up the value chain and emerge as the largest end-to-end AIDC solutions provider in the country. It is investing more than Rs 270 crore into the new 80 million smart cards manufacturing facility making it one of the biggest players in South Asian. Revenues are expected to a grow at a CAGR of 130% over FY07-09E.

Currently, the stock is trading at 10.32x FY09E earnings and 6.23x FY09E EV/EBIDTA, which we believe is very attractive considering the sharp earnings growth and strong position in the smart card market. There is no listed peer in the Indian market. Other small companies are in the unorganized sector and have selected bouquet of products. We believe the valuation discount of BIL is unwarranted considering its double-digit growth rate and impressive return ratios. Very few global players are listed and command significant premium to current BIL's valuations.

Exhibit 10: Peer comparison

Company	2008E			2009E		
Name	P/E	Price/Sales	EV/EBIDTA	PE	Price/Sales	EV/EBIDTA
Intermec	58.7	1.78	26.14	27.51	1.62	14.94
Oberthur card	22.65	0.8	8.55	15.63	0.75	6.93
Gemalto	40.24	1.01	10.91	18.04	0.95	7.11
Bartronics	17.86	1.16	11.63	10.32	0.70	6.23

Source: Bloomberg, ICICIdirect Research

We value the stock on two parameters

Method 1: Price to earnings

Most of the global players are trading between 15-28x FY09E earnings. Considering the exponential growth expect, we believe BIL should also command a similar premium, as it is the only listed company in India in this space. Using this method, we value the stock at Rs 340, 15x FY09E diluted EPS of Rs 22.66.

Method 2: Price to Sales:

We believe this industry is driven by sales and larger players command higher valuations. Big players such as Intermec command higher valuation than Oberthur. We value BIL at 1x price to sales at FY09 sales and arrive at a target price of Rs 336.

Valuation Methodology	Multiple	Share Price
PE	15x	340
Price/sales	1x	336
Average		338

Source: ICICIdirect Research

Hence, we initiate coverage with an outperformer rating with target price of Rs 338, an upside potential of 44%

Financial Summary

Profit and Loss statement

(Rs crore)

(Year-end March 31)	FY09E	FY08E	FY07P	FY06
Sales	336.57	202.26	63.50	28.97
% Growth	66.41%	218.54%	119.15%	NA
Op Profit	98.25	57.34	16.86	7.38
% Growth	71.34%	240.19%	128.30%	NA
Other Income	0.95	0.95	0.95	0.50
Depreciation	20.06	11.25	1.68	1.00
EBIT	79.14	47.04	16.12	6.88
% Growth	68.23%	191.89%	134.15%	NA
Interest	5.40	2.68	1.34	0.77
Profit before Tax	73.74	44.36	14.77	6.12
% Growth	66.23%	200.29%	141.48%	NA
Taxation	6.44	5.45	1.31	0.77
Net Profit	67.30	38.91	13.47	5.35
% Change YoY	72.96%	188.96%	151.81%	NA

Balance Sheet

(Rs crore)

(Year-end March 31)	FY09E	FY08E	FY07P	FY06
Cash	142.65	88.01	64.10	35.81
Trade Receivables	88.52	66.50	34.79	16.99
Loans & Advances	1.50	1.50	1.50	1.23
Gross Block	236.00	226.00	19.50	11.86
Net Block	199.75	209.81	14.56	8.60
Capital Work-in-progress	8.00	10.00	15.00	16.11
Current Liabilities & Provisions	67.31	40.45	14.15	7.05
Total Asset	447.16	379.87	128.52	78.14
Loans	60.00	60.00	9.12	8.32
Equity Share Capital	29.69	29.69	17.82	14.57
Reserves & Surplus	355.67	288.38	99.79	53.83
Total Liabilities	447.16	379.87	128.52	78.14

Cash Flow Statement

(Rs crore)

(Year-end March 31)	FY09E	FY08E	FY07P	FY06
Profit after Tax	67.29	38.90	13.46	5.34
Misc exp w/o	0.01	0.01	0.01	0.01
Depn	20.06	11.25	1.68	1.00
Cash Flow before WC Changes	87.36	50.16	15.52	6.90
Net Increase in Current Liabilities	26.86	26.30	7.10	3.79
Net Increase in Current Assets	51.58	63.50	24.35	11.15
Cash Flow after WC Changes	62.64	12.96	-1.73	-0.46
Purchase of Fixed Assets	8.00	201.50	6.53	18.14
(Increase) / Decrease in Investment	0.00	0.00	0.00	0.00
Cash Flow from Investing Activities	-8.00	-201.50	-6.53	-18.14
Increase / (Decrease) in Loan Funds	0.00	50.88	0.80	0.92
Increase / (Decrease) in Equity Capital	0.00	161.57	35.75	53.49
Cash Flow from Financing Activities	0.00	212.44	36.55	54.40
Op bal Cash & Cash equivalents	88.01	64.10	35.81	0.00
Closing Cash/ Cash Equivalent	142.65	88.01	64.10	35.81

Ratio Analysis

(Year-end March 31)	FY09E	FY08E	FY07P	FY06
EPS	22.66	13.10	7.55	3.66
Cash EPS	29.42	16.89	8.50	4.35
Book Value	129.79	107.13	66.00	46.95
Operating Profit Per Share	33.09	19.31	9.46	5.07
Operating Margin (%)	29.19%	28.35%	26.55%	25.48%
Net Profit Margin (%)	19.94%	19.14%	20.88%	18.11%
RONW	17.46%	12.23%	11.44%	7.81%
ROCE	17.77%	12.44%	12.72%	8.97%
Debt Equity	0.16	0.19	0.08	0.12
Fixed Assets Turnover Ratio	1.68	0.96	4.36	3.37
Enterprise Value	612.10	666.74	361.99	313.43
EV/EBIDTA	6.23	11.63	21.48	42.45
Sales to Equity	11.34	6.81	3.56	1.99
Market Cap	694.75	694.75	416.97	340.92
Market Cap to sales	2.06	3.44	6.57	11.77
Price to Book Value	1.80	2.18	3.55	4.98
PE	10.32	17.86	30.99	63.86
Effective Tax Rate	8.73%	12.29%	8.85%	12.61%
Dividend Per Share	0.00	0.00	0.00	0.00
Dividend Yield (%)	0.00	0.00	0.00	0.00

Annexure: Index

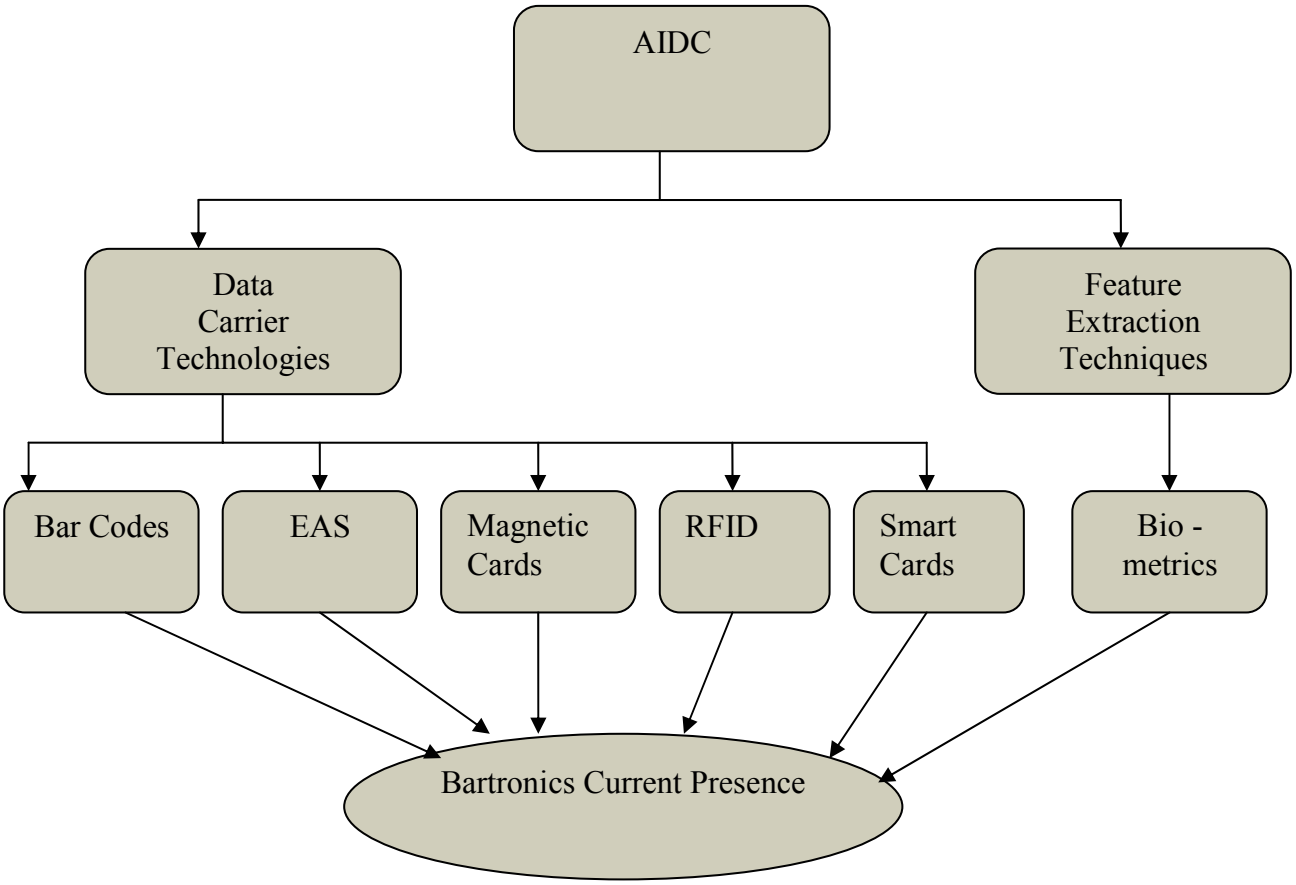
Technology

- **AIDC**

Automatic Identification and Data Capture (AIDC) is the industry term, which describes the identification and / or direct collection of data into a microprocessor controlled device such as a computer system or a programmable logic controller (PLC) without the use of keyboard.

AIDC technologies support two primary goals of any business sector:

- To eliminate errors associated with identification and / or data collection
- To accelerate the through - put process (the through - put process is the input to output process) to increase the efficiencies in the management control cycles



Source: Company RHP

- **Bar code**

Bar code is perhaps the oldest of the AIDC technologies. Bar codes, such as the familiar UPC symbol used for point-of-sale, are physical marks arranged in a "linear" manner of dark and light "bars" (hence the term "bar" code). Bar codes are designed to provide reliable encodation of limited amounts of data (typically 30 characters maximum). The structure of the barcode consists of the height and the width. Information is encoded into spaces and bars of various widths. The number of characters is represented in a linear inch called the barcode density. The density depends on the symbology. These are used in variety of applications including item identification in spare parts management, inventory management and super markets check out counters.

Barcodes can also be produced easily and inexpensively. They can be printed on most dot matrix, laser, and thermal transfer printers depending on the quality customer's demand. Bartronics has standardized its solution for the manufacturing sector based on its past experience and is now capable of deploying such solutions within a very short period of time.

- **Biometrics**

Biometric technologies are defined as "automated methods of verifying or recognizing the identity of a living person based on a physiological or behavioral characteristic". Some of the biometrics technologies used are: fingerprint identification, iris identification, retinal identification, hand geometry, hand, palm, voice identification, facial feature identification, body salinity (salt) identification and ear identification.

- **RFID**

RFID tags are essentially pieces of circuitry available in various formats (embedded in labels or as a wide variety of plastic tags), which contain a database record of information. Readers use RF signals to communicate with the tags. Depending on design, they can be read from and/or written to without the need of line of sight. In general terms, Radio Frequency Identification (RFID) is a means of identifying a person or object using a radio frequency transmission, typically 125 kHz, 13.56 MHz or 800-900MHz.

The significant advantage of all types of RFID systems is the no contact, non-line-of-sight nature of the technology. Tags can be read through a variety of substances such as snow, fog, ice, paint, crusted grime, and other visually and environmentally challenging conditions, where barcodes or other optically read technologies would be useless.

- **Smart cards**

Smart cards are the youngest members of the plastic card family. A smart card is defined as:

"A plastic card, usually similar in size and shape to a credit card, containing a microprocessor and memory (which allows it to store and process data) and complying with ISO 7816 Standard."

In other words, a smart card can be defined as a card with a very tiny computer embedded in it.

- **Types of smart cards**

Memory Cards
Memory Cards are designed primarily for storing information or values and are commonly used for applications such as disposable prepaid telephone cards for public telephones. These are the most common and least expensive cards. The simple technology of these cards enables them to be made very cheaply. These cards can store data from a few 100 bytes to up to 8 KB

Secure Memory cards
Secure Memory Cards have a read-only memory chip but no processor. These secured memory cards are used for telephony and stored-value (credit and debit) cards.

Microprocessor/Chip Cards

These are cards that incorporate a microprocessor and they are the ones that technically can be called smart cards. Chip Cards are more expensive than memory cards. These cards can house multiple applications and provide robust security.

Crypto Controller Cards

Crypto Controller Cards uses Cryptography, made possible by an embedded Micro Processor, which confers high degree of security making them Chip Operating System based Crypto Controller cards.

GSM Cards

GSM Cards, better known as SIM cards are used for initial authentication and providing various utility based service facilities such as Call Counters, Billing & Payment Data Transaction management, Phone Number Memory Storage etc.

Contactless Cards

Contactless cards have the ability to communicate data without physical contact of cards with the reader. The antenna etched on card with capacitance based power is able to emit Wireless Signals, carrying the electronic data to remote located Read/Write unit, within certain proximity of the card activation device or target. They are ideal for mass transit, parking, and access control and toll ways

Bio-Metric Cards

Bio-Metric Cards are used in the fingerprint, the handprint, and the retina / iris scan, in which the hand or eye is electronically scanned and the output is stored as a unique number which can be easily compared.

- **RFDC**

Radio Frequency Data Communications is a technology that uses radio frequency (RF) waves to transmit information, allowing real-time portable data collection and interaction with a host computer. RFDC is normally used for mobile remote data communication where wired terminals cannot easily be used. RFDC system is normally implemented with appropriate technology, such as warehouse management, software and bar coding or Radio Frequency Identification (RFID) tags

- **EAS**

Electronic Article Surveillance (EAS) is a technology used to identify items as they pass through a gated area. Several EAS technologies are widely used today, including electro magnetic, acousto-magnetic, swept radio frequency, and microwave. Each technology functions on the same basic principle: a transmitter sends a signal at defined frequencies to create an electromagnetic field (EMF) that functions as a surveillance area. EAS systems are used anywhere where there is a chance of theft from small items to large. By placing an EAS tag on an item, it is not necessary to hide the item behind locked doors and so makes it easier for the consumer to review the product

Products

Bartronics offers solutions in the fields of education, security, industrial, human resources, healthcare, hospitality and finance.

- **Security**

Time Attendance System is an essential to all types of organizations, where in the management can track the employee movement inside the premises. BIL introduced SYNEL data capturing systems to collect the employee's movement with real time. These systems are kept at required location in the organization where ever employee needs to swipe the card

The major advantage and uniqueness of the system is all the features and controls in the terminal are user-friendly, with this system all the employees can be evaluated very critically and accurately & totally error free. The identity card of the employee will be bar-coded / Proximity / Smartcard along Biometric Automatically the time along with employee code are recorded in the memory of the system. Which is further used an input for any Database (Access / Oracle / SQL) for user required reports

Source : Company Website

- **Library Management System**

Library Automation System is designed to meet the needs of all information seekers. Academic researchers can search the world's library collections using a seamlessly integrated client. For the librarian, Library Automation System provides simple interfaces to catalog new books manage patrons, create reports and control budgets and acquisitions.

Product Used:
Barcode Printer, Barcode Scanners, Consumables — Labels & Ribbons

Solution:
Barcode system would streamline the very function of circulation without actually effecting any changes in the existing system. The only objective would be to make the system more efficient and less time consuming. The user would surrender his/her card along with the book one wishes to borrow. The personnel at the circulation desk would, using the barcode reader, read the barcode of the book and then the unique number would get recorded. Identification number of the user, the system would record the transaction there by eliminating the possibility of manual entry. This could be interfaced to the printer which would generate a print out which could act as a gate pass. The details regarding the transaction i.e. date, time of issue etc. would be recorded by the system.

Source: Company Website

- **Warehouse Management System**

Product Used:
Barcode Printer, Portable Data Terminals, Barcode Generation

Solution:

Raw Materials Receiving: The integration of bar coding starts right from the raw material receipts. Once the material is inwarded Material and the location id is scanned using the mobile computer before they are placed in to the Rack/bin.

Dispatch: Pick list is generated and downloaded onto the Mobile computer. Picker keys in the vendor code to get available items to be packed. Material and the location code is scanned and then transferred for packing. Once the bin is ready for dispatch it shall be scanned for confirmation and also for the invoice generation

Source: Company Website

- **Retail Solutions**

Point-of-Sale Technology is one such subset of IT widely used in retail. POS systems are dedicated systems designed and developed specifically for the use of retailers. They are a total solution to any type of retailer and offer a host of benefits to the retailer to derive maximum profits. They can be used at the front end and connected to servers at the back end to fulfill the needs of different operating areas.

Bartronics POS products find application in different retail outlets like Super markets, Restaurants, CSD Canteens, Textile Showrooms, Footwear, Medical shops, Jewelers showrooms and other general-purpose retail outlets. POS facilitates the retailer in the management of the core processes of retail like Merchandise management, Store operations, Stock maintenance, Customer Transactions etc, which are intrinsic to every retail business and come together to reach the right product to the consumer

Source: Company Website

RATING RATIONALE

ICICIdirect endeavors to provide objective opinions and recommendations. ICICIdirect assigns ratings to its stocks according to their notional target price vs current market price and then categorises them as Outperformer, Performer, Hold, and Underperformer. The performance horizon is 2 years unless specified and the notional target price is defined as the analysts' valuation for a stock.

Outperformer: 20% or more;
Performer: Between 10% and 20%;
Hold: ±10% return;
Underperformer: -10% or more.

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